BookletChart™

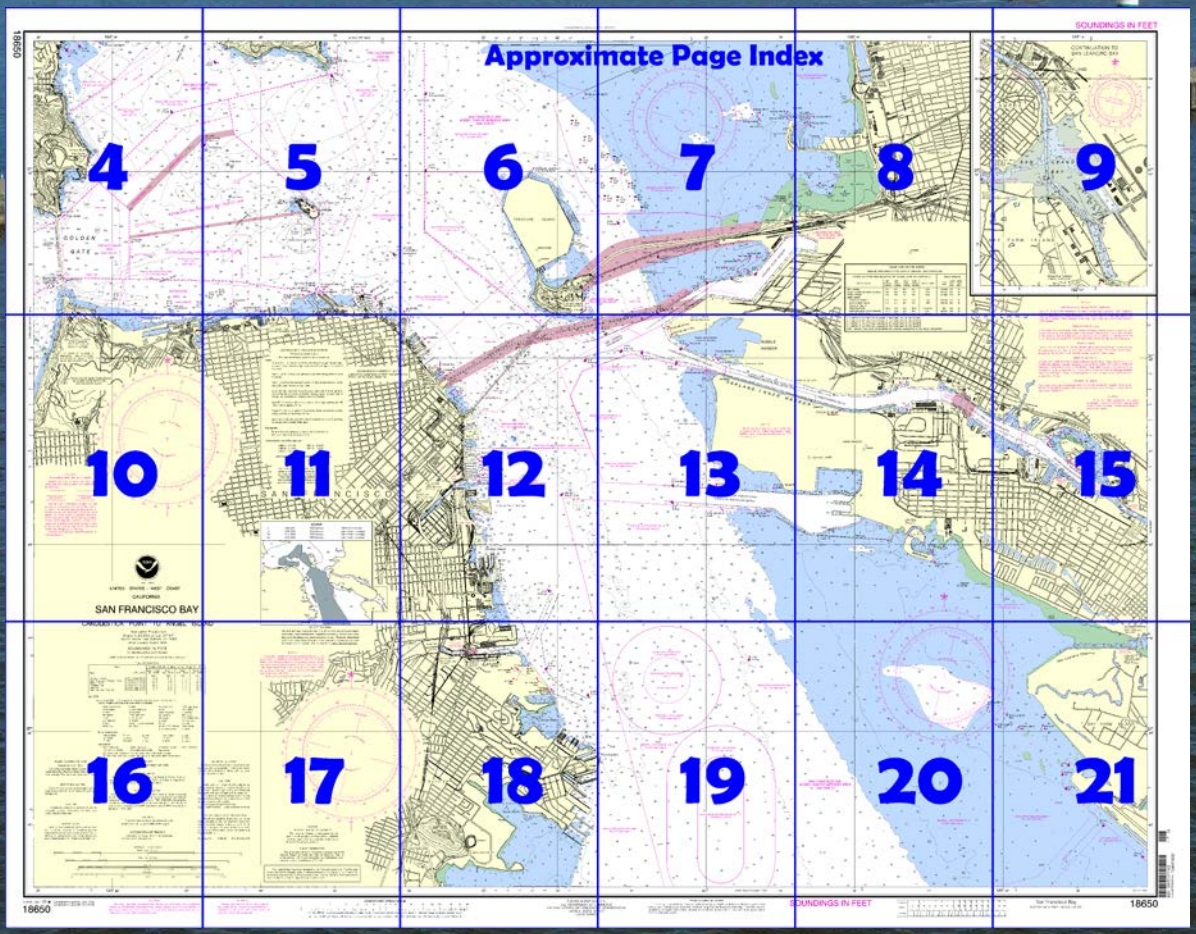
San Francisco Bay – Candlestick Point to Angel Island

NOAA Chart 18650

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

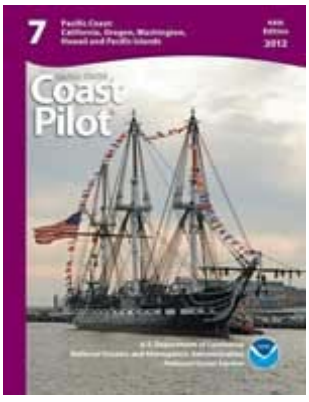
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=18650.



(Selected Excerpts from Coast Pilot)
San Francisco occupies the N portion of the peninsula forming the S entrance to the bay. The 3-mile N shore of San Francisco from the Golden Gate Bridge to the main waterfront includes the **Presidio of San Francisco**; several yacht harbors; Government buildings and piers on Black Point; Aquatic Park; and Fisherman's Wharf. Shoals with depths less than 10 feet extend up to 0.2 mile from the shore.
The charted **recreation area** extending along this shore is intended primarily for use by recreation vessels.

Alcatraz Island, 2.5 miles E of the Golden Gate Bridge, is one of the leading marks entering San Francisco Bay. Near the NW end of the island is a water tower, which is the only landmark visible when that area is in fog. **Alcatraz Light** (37°49'34"N., 122°25'20"W.), 214 feet above the water, is shown from a gray, octagonal pyramidal tower on the SE part of the island. A sound signal is on the extreme NW end of the island.
Dangers.–Anita Rock, 1.1 miles E of Fort Point and 300 yards from shore, is covered 3 feet and marked by a light.
There are several rocky patches with depths of 33 to 35 feet W and NW of Alcatraz Island that must be avoided by deep-draft vessels. The northwestern most of these shoals is **Harding Rock,** marked by a lighted buoy equipped with a racon.
Heavy tide rips occur in the vicinity of Alcatraz Island.
Blossom Rock, covered 40 feet and marked on the W side by a lighted bell buoy, is about 1 mile SE of Alcatraz Island. Another rock, covered 43 feet, is 0.3 mile S of Blossom Rock.
Yerba Buena Island, 345 feet high and 2.5 miles SE of Alcatraz Island, is of small, irregular in shape, and covered with a scrubby growth of trees. On its summit is a former lookout tower and the Coast Guard operated San Francisco Vessel Traffic Service Operation Center and radar antenna site. **San Francisco Coast Guard Station** is on the E side of the island.
Treasure Island is a low filled area N of and connected by a causeway to Yerba Buena Island. A light is on the N end of the island and a shoal, covered 15 feet, is off the N end of the island.
When the prevailing W winds are blowing, deep-draft vessels proceeding to the berthing area on the E side of the island may have extreme difficulty making the 90° turn from the narrow channel between the 30-foot curves SE of Yerba Buena Island.
Naval restricted areas are off the N end of Treasure Island and between this island and Yerba Buena Island. (See **334.1070 and 334.1080**, chapter 2, for limits and regulations.) A **restricted area** surrounds the Coast Guard Station off the E side of Yerba Buena Island. (See **334.1065,** chapter 2, for limits and regulations.)
The **San Francisco-Oakland Bay Bridge** crosses the bay from **Rincon Point** to Yerba Buena Island, thence to Oakland. Racons mark the main bridge spans. The recommended passage for southbound traffic is under the NE half of span A-B (midspan clearance 204 feet). Northbound traffic should use the SW half of span D-E (midspan clearance 204 feet). The midspan clearance of spans B-C and C-D are each 220 feet.
Warning.–Two submarine pipeline areas cross San Francisco Bay within General Anchorage 9; one crosses between Metropolitan Oakland International Airport and **Brisbane,** and the other about 1.5 miles to the S. Mariners are cautioned not to anchor in these areas. (See chart 18651.)
The Trans-Bay Tube of the Bay Area Rapid Transit District crosses San Francisco Bay from the vicinity of the Ferry Tower to Oakland. Mariners are **prohibited** from dropping or dragging anchors when in the vicinity of the tunnel crossing.
Caution.–Oakland's Seventh Street Marine Terminal, about 1 mile E of Yerba Buena Island, forms a current lee on both the flood and the ebb current. Vessels making for Middle Harbor and Oakland Inner Harbor on a flood current will encounter a lee on the S side of the terminal; when the bow enters the slack water, the vessel will tend to sheer to the left. Similarly, vessels bound for the Outer Harbor on an ebb current will encounter slack water on the N side of the terminal, with a tendency to sheer to the right.

U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies

RCC Alameda	Commander 11th CG District Alameda, CA	(510) 437-3700

Table of Selected Chart Notes

GOLDEN GATE BRIDGE
SUSPENSION BRIDGE
VERT CL 225 FT CENTER
VERT CL 213 FT N PIER
VERT CL 211 FT S PIER

The center of the span is marked by three white lights vertically in line above a fixed green light on each side.

HEIGHTS

Heights in feet above Mean High Water.

Ferry Maneuvering Area

Mariners are cautioned when transiting in the area of the San Francisco ferry building while ferries are waiting outside the maneuvering area, ferries are transiting the area, and passenger loading and unloading.

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

Mercator Projection
Scale 1:20,000 at Lat 37°47'
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio station listed below provides continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Mt. Pise, CA KHB-49 162.40 MHz WX2

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

CAUTION

Fixed and floating obstructions, some submerged, may exist within the magenta tinted bridge construction area. Mariners are advised to proceed with caution.

SAN FRANCISCO WATERFRONT LIGHTS

Lights and fog signals along waterfront from North Point to Potrero Point are privately maintained.

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Department of the Navy and U. S. Coast Guard.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83) and for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.260" southward and 3.891" westward to agree with this chart.

TIDAL INFORMATION

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
Alcatraz Island	(37°50'N/122°25'W)	5.8	5.2	1.1
San Francisco (Golden Gate)	(37°48'N/122°28'W)	5.8	5.2	1.1
Rincon Point	(37°47'N/122°23'W)	6.3	5.7	1.1
Oakland Pier	(37°48'N/122°20'W)	6.2	5.6	1.1
Alameda	(37°46'N/122°18'W)	6.6	5.8	1.1
San Leandro Channel	(37°42'N/122°12'W)	7.2	6.6	1.1

Dashes (- - -) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.

(Aug 2009)

OAKLAND OUTER AND INNER HARBORS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO MAY 2012

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
BAR CHANNEL	49.0	50.0	50.0	50.0	1-12	1000-930	0.57	50
OUTER HARBOR ENTRANCE CHANNEL	48.0	49.0	50.0	50.0	1,5-12	900-600	0.91	50
OUTER HARBOR	39.0	39.0	39.0	39.0	2-10; 3,5-12	1575-600	1.40	50
INNER HARBOR								
ENTRANCE CHANNEL	49.0	50.0	50.0	48.0	1,2-12	2100-480	1.10	50
INNER HARBOR REACH	48.0	50.0	49.0	46.0	2,3,5-12	1325-480	2.27	50
GROVE ST PIER TO BROOKLYN BASIN	A26.0	31.0	32.0	B27.0	2,12-10; 1,5-11	600	1.30	35
BROOKLYN BASIN SOUTH CHANNEL	C12.0	21.0	23.0	D15.0	12-10	600-500	0.90	35
PARK ST BRIDGE REACH	11.0	22.0	23.0	11.3	7-86,12-10	500-275	0.42	35

A. A DEPTH OF 31.0 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
B. A DEPTH OF 32.0 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
C. A DEPTH OF 18.0 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
D. A DEPTH OF 19.0 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

SAN FRANCISCO - OAKLAND BAY BRIDGE

(Privately maintained aids)

The piers are lettered on the chart for reference

Lights:

Piers A, B, E, G, and H. An AERO, flashing red every 10 seconds, on top of tower; a fixed red light each side of the bridge at the foot of the tower.

Piers I, J, and K. A fixed red light each side of the bridge at the foot of the tower.

Pier C. A fixed red light at each corner of the pier and red axis lights along the channel axis on each side.

Span AB, DE, and GH. A fixed green light with 3 white lights in vertical line above center of channel through span, on each side of bridge; red axis lights on channelward face of piers.

Span EF. A fixed red light on each side of the bridge marking the NE limit of the navigable channel.

Spans BC, CD, HI, IJ, and JK. Fixed green lights on each side of the bridge over the center of the channel.

Spans IJ, JK, KL, LM, and MN. A light occulting red every 5 seconds, on top and at the center of the span.

Fog signals:

Bells on the east and west sides of pier C and on pier I.
Horns on piers A, B, D, E, G, and H.

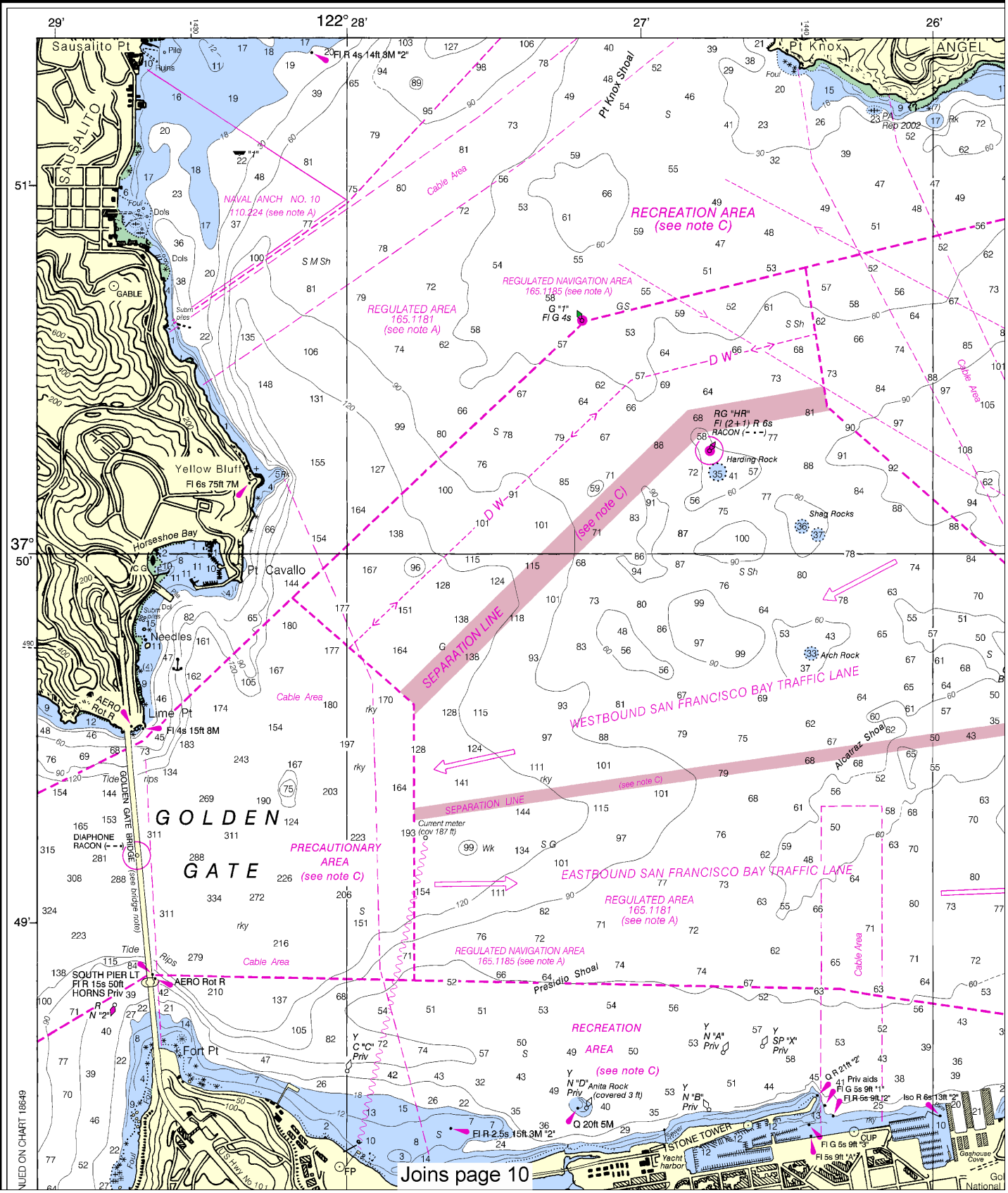
Vertical clearances at the piers are:

PIER A - 174 FT. PIER E - 175 FT. PIER J - 170 FT.
PIER B - 217 FT. PIER G - 184 FT. PIER K - 165 FT.
PIER C - 220 FT. PIER H - 184 FT. PIER L - 155 FT.
PIER D - 218 FT. PIER I - 178 FT. PIER M - 141 FT.

APPROXIMATE MID-SPAN VERTICAL CLEARANCES

A-B 204 FT. C-D 220 FT. I-J 112 FT.
B-C 220 FT. D-E 204 FT.

CAUTION – Mid-span clearances under the long spans of the San Francisco-Oakland Bay Bridge are approximate and at a temperature of 55°F. These clearances may be reduced several feet due to extreme traffic conditions and a prolonged period of abnormally high temperature.



CONTINUED ON CHART 18649

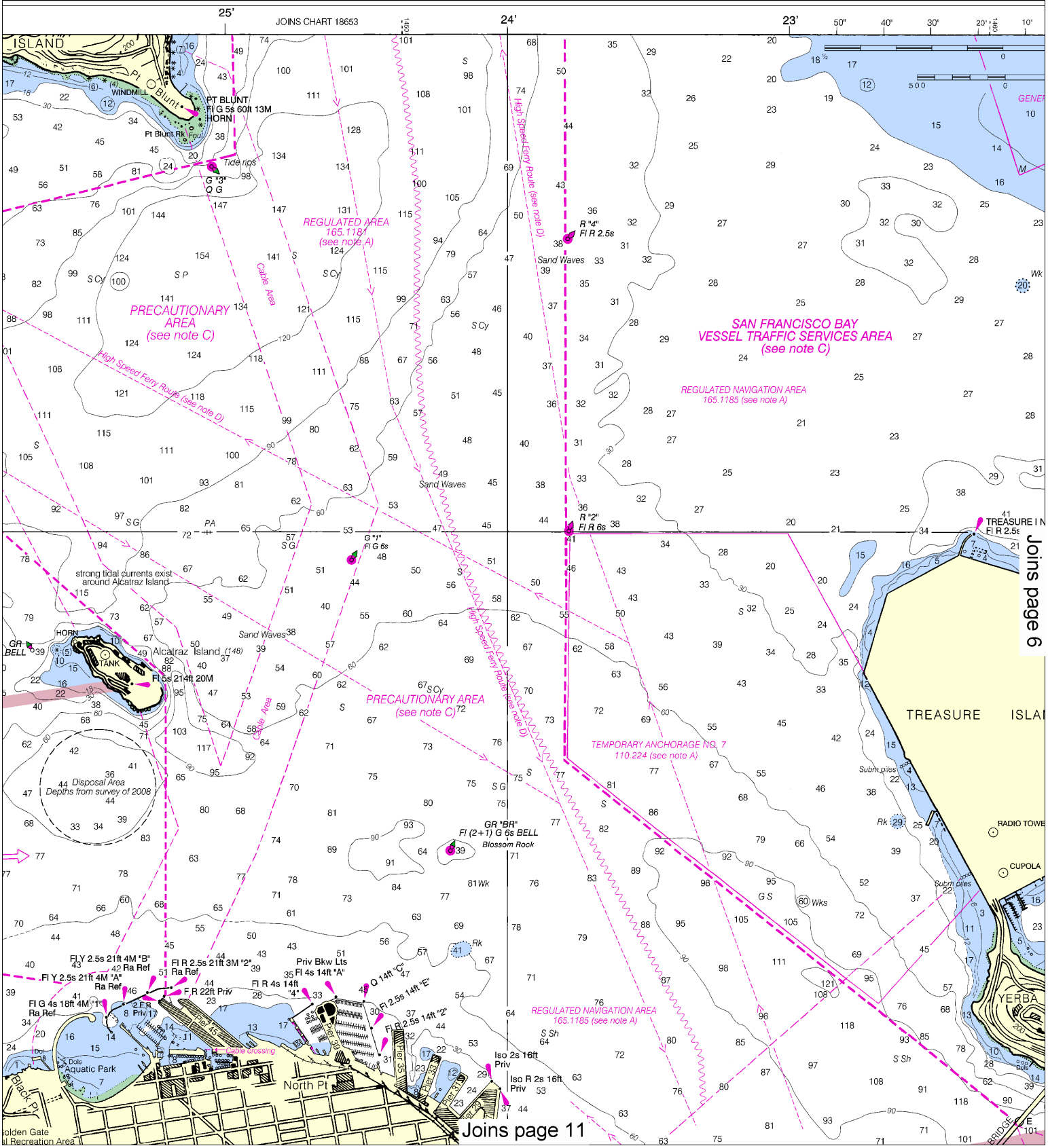
4

Note: Chart grid lines are aligned with true north.

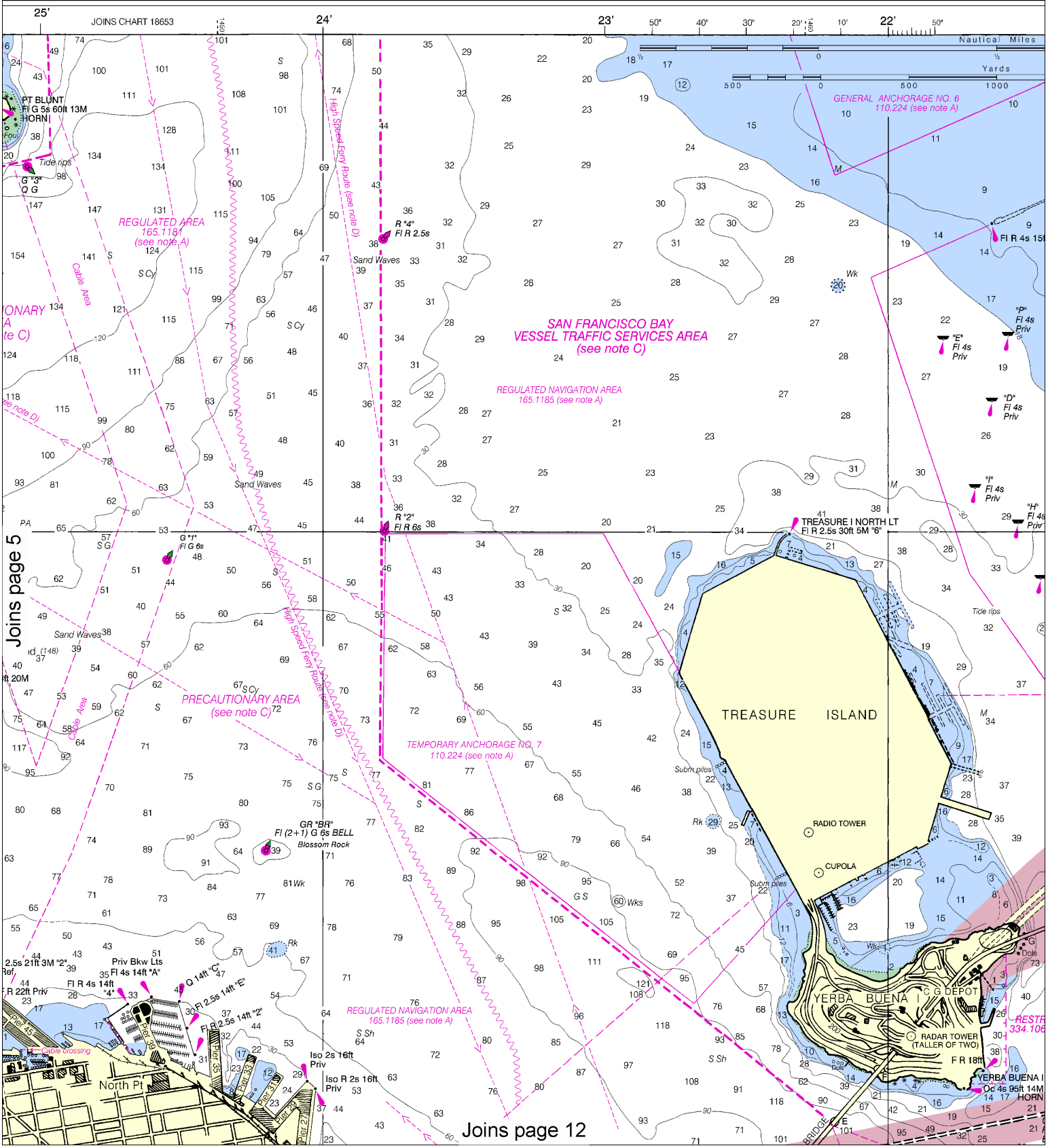
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1 ½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500



This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:26667. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.



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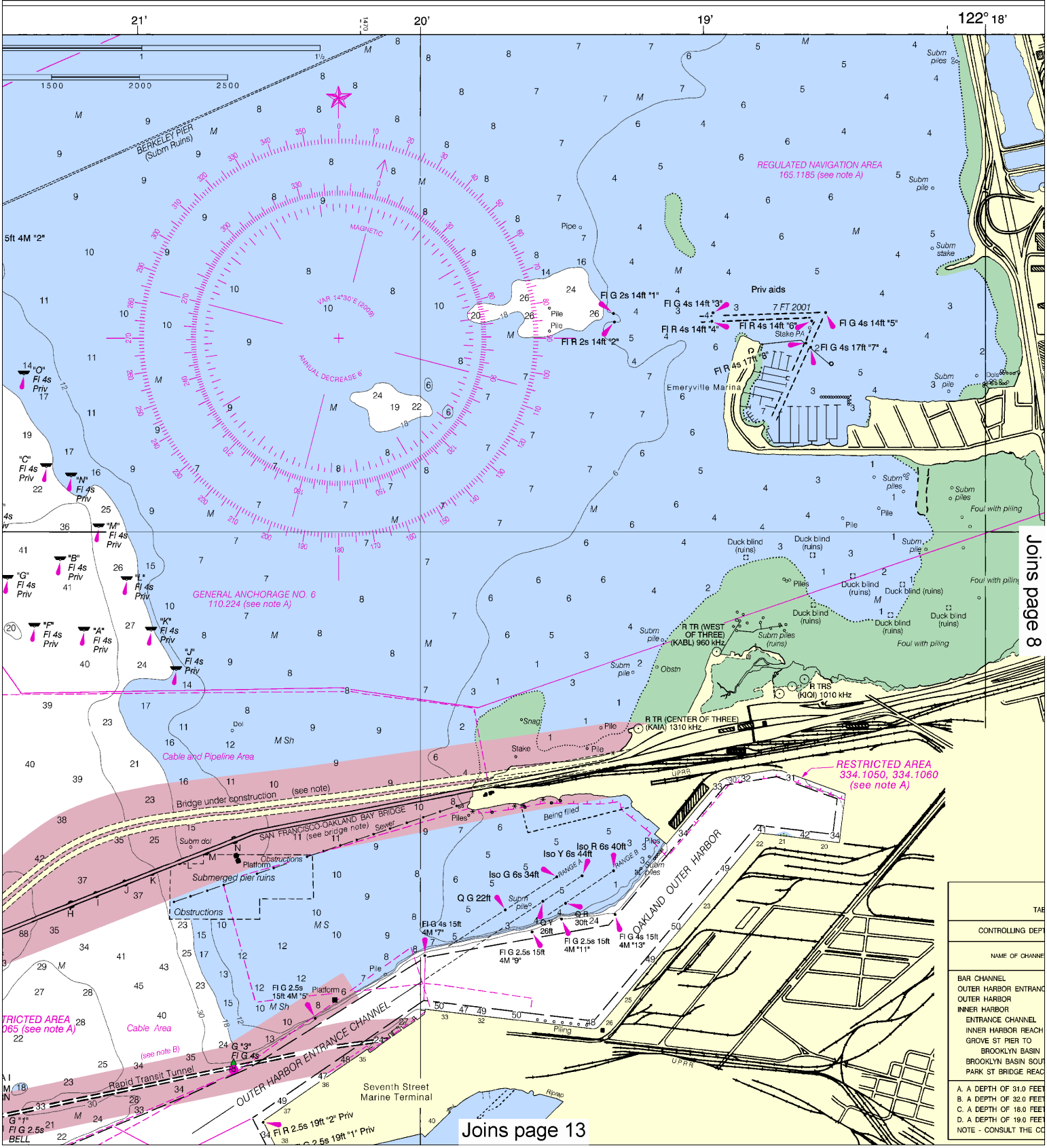
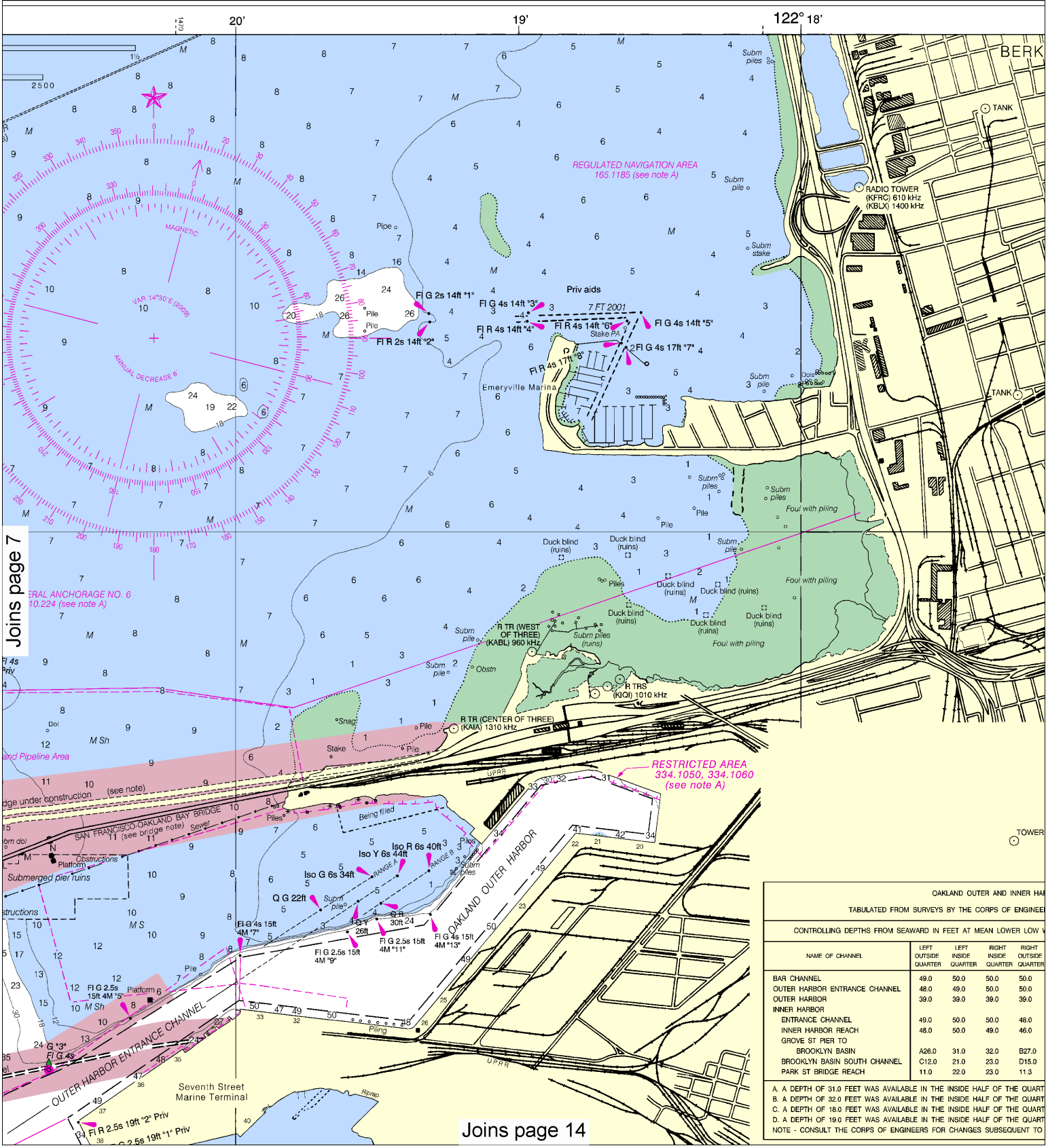


This BookletChart has been updated through: Coast Guard Local Notice To Mariners: 5012 12/11/2012,
NGA Weekly Notice to Mariners: 5212 12/29/2012,
Canadian Coast Guard Notice to Mariners: n/a.



OAKLAND OUTER AND INNER HAR

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CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW W

NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER
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INNER HARBOR				
ENTRANCE CHANNEL	49.0	50.0	50.0	48.0
INNER HARBOR REACH	48.0	50.0	49.0	46.0
GROVE ST PIER TO BROOKLYN BASIN	A26.0	31.0	32.0	B27.0
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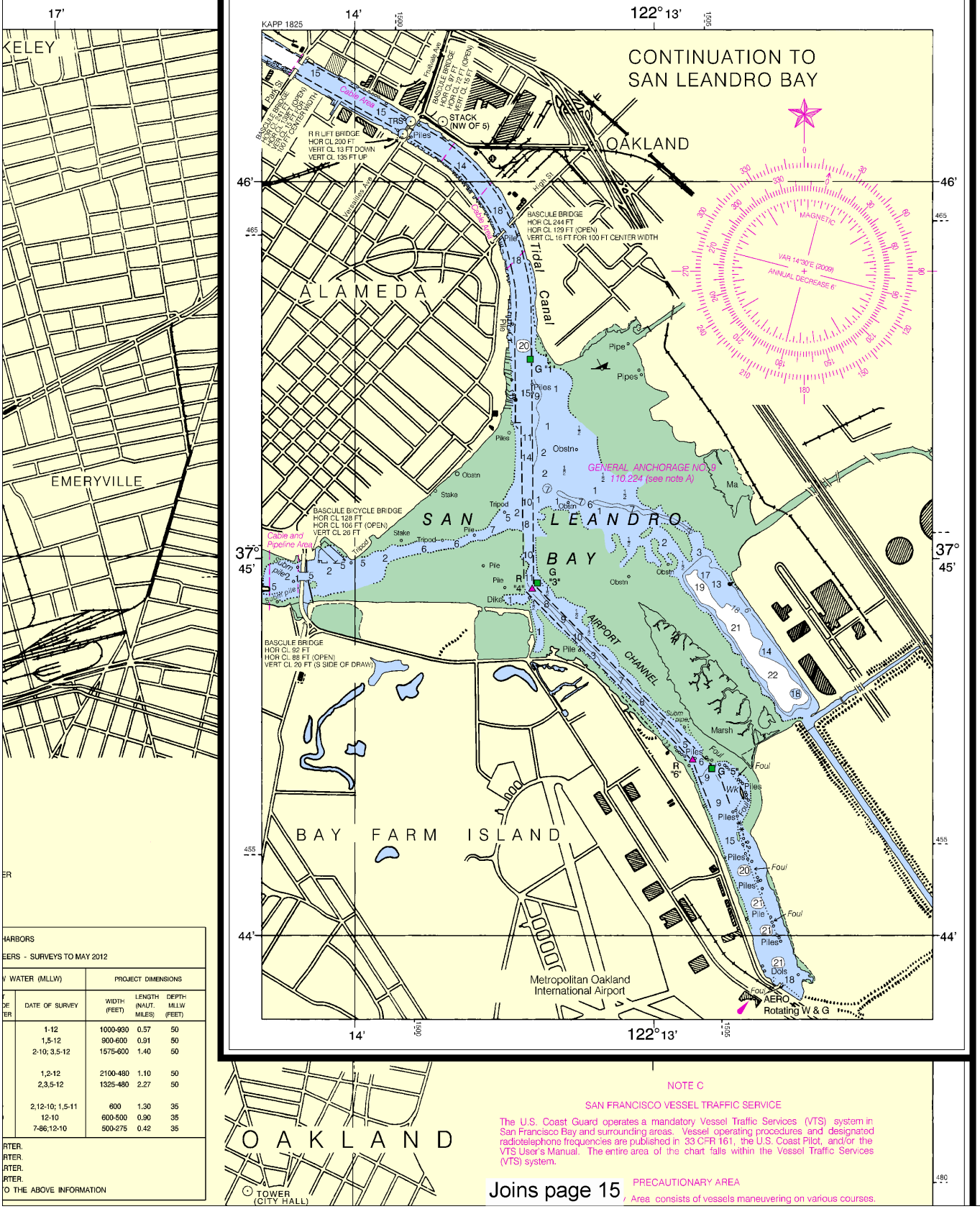
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500

SOUNDINGS IN FEET



HARBORS

EERS - SURVEYS TO MAY 2012

	WATER (MLLW)		PROJECT DIMENSIONS		
	DATE OF SURVEY		WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
		1-12	1000-930	0.57	50
		1,5-12	900-600	0.91	50
		2-10; 3,5-12	1575-600	1.40	50
		1,2-12	2100-480	1.10	50
		2,3,5-12	1325-480	2.27	50
		2,12-10; 1,5-11	600	1.30	35
		12-10	600-500	0.90	35
		7-86,12-10	500-275	0.42	35

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O THE ABOVE INFORMATION

NOTE C

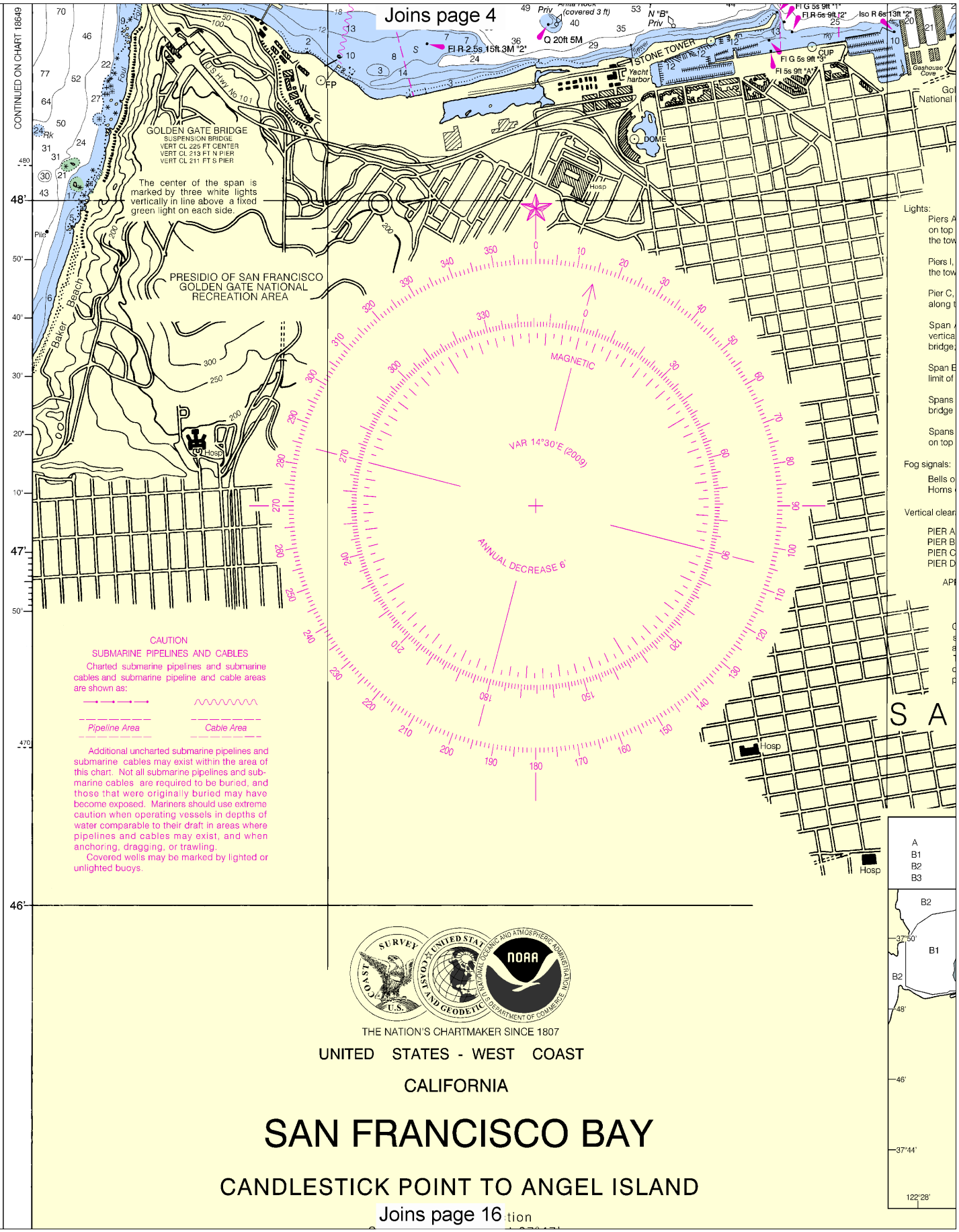
SAN FRANCISCO VESSEL TRAFFIC SERVICE

The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

Joins page 15

PRECAUTIONARY AREA

Area consists of vessels maneuvering on various courses.



THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - WEST COAST

CALIFORNIA

SAN FRANCISCO BAY

CANDLESTICK POINT TO ANGEL ISLAND

Joins page 16

Note: Chart grid lines are aligned with true north.

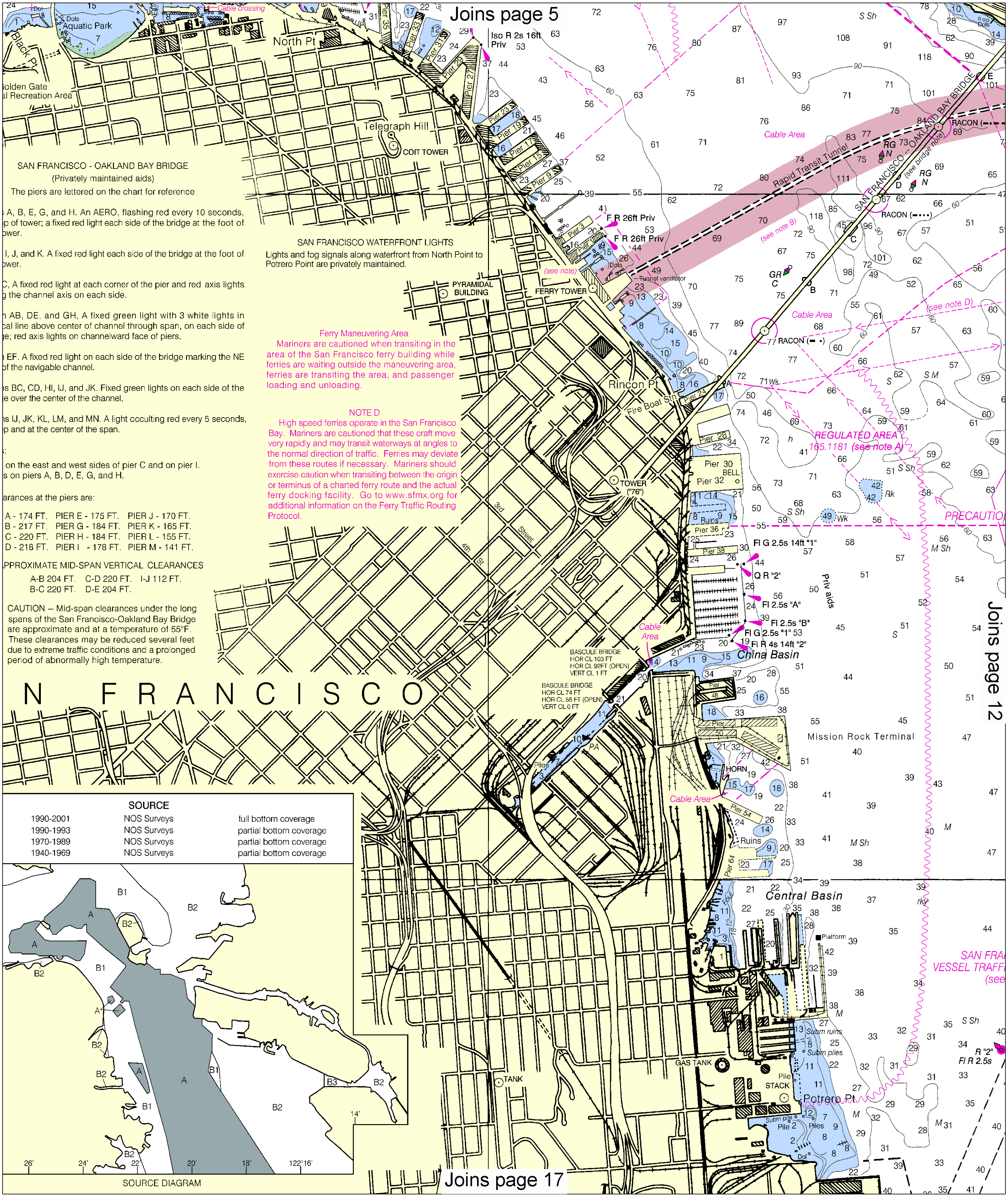
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles

0 1 1½

Yards

500 0 500 1000 1500 2000 2500


Joins page 5
Joins page 12
Joins page 17
Aquatic Park
North Pt
Telegraph Hill
COIT TOWER
Rincon Pt
China Basin
Mission Rock Terminal
Central Basin
Potrero Pt
N F R A N C I S C O
SAN FRANCISCO - OAKLAND BAY BRIDGE
(Privately maintained aids)
The piers are lettered on the chart for reference
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APPROXIMATE MID-SPAN VERTICAL CLEARANCES
A-B 204 FT. C-D 220 FT. I-J 112 FT.
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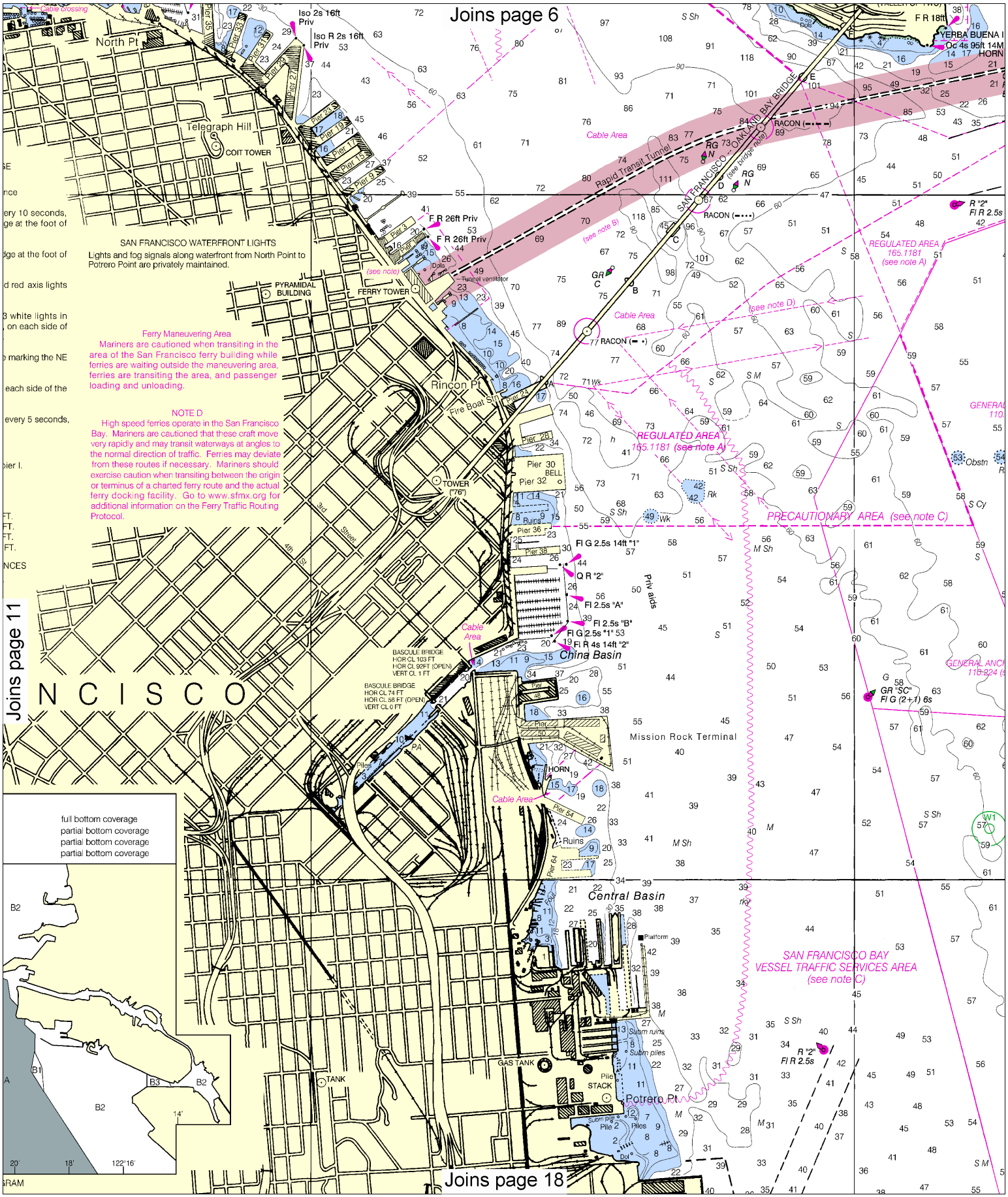
CAUTION – Mid-span clearances under the long spans of the San Francisco-Oakland Bay Bridge are approximate and at a temperature of 55°F. These clearances may be reduced several feet due to extreme traffic conditions and a prolonged period of abnormally high temperature.
SAN FRANCISCO WATERFRONT LIGHTS
Lights and fog signals along waterfront from North Point to Potrero Point are privately maintained.
Ferry Maneuvering Area
Mariners are cautioned when transiting in the area of the San Francisco ferry building while ferries are waiting outside the maneuvering area, ferries are transiting the area, and passenger loading and unloading.
NOTE D
High speed ferries operate in the San Francisco Bay. Mariners are cautioned that these craft move very rapidly and may transit waterways at angles to the normal direction of traffic. Ferries may deviate from these routes if necessary. Mariners should exercise caution when transiting between the origin or terminus of a charted ferry route and the actual ferry docking facility. Go to www.sfmx.org for additional information on the Ferry Traffic Routing Protocol.
PYRAMIDAL BUILDING
FERRY TOWER
Rapid Transit Tunnel
Cable Area
REGULATED AREA 165.1181 (see note A)
BASCULE BRIDGE HOR CL 103 FT HOR CL 92FT (OPEN) VERT CL 1 FT
BASCULE BRIDGE HOR CL 74 FT HOR CL 56 FT (OPEN) VERT CL 0 FT
SOURCE
1990-2001 NOS Surveys full bottom coverage
1990-1993 NOS Surveys partial bottom coverage
1970-1989 NOS Surveys partial bottom coverage
1940-1969 NOS Surveys partial bottom coverage
SOURCE DIAGRAM



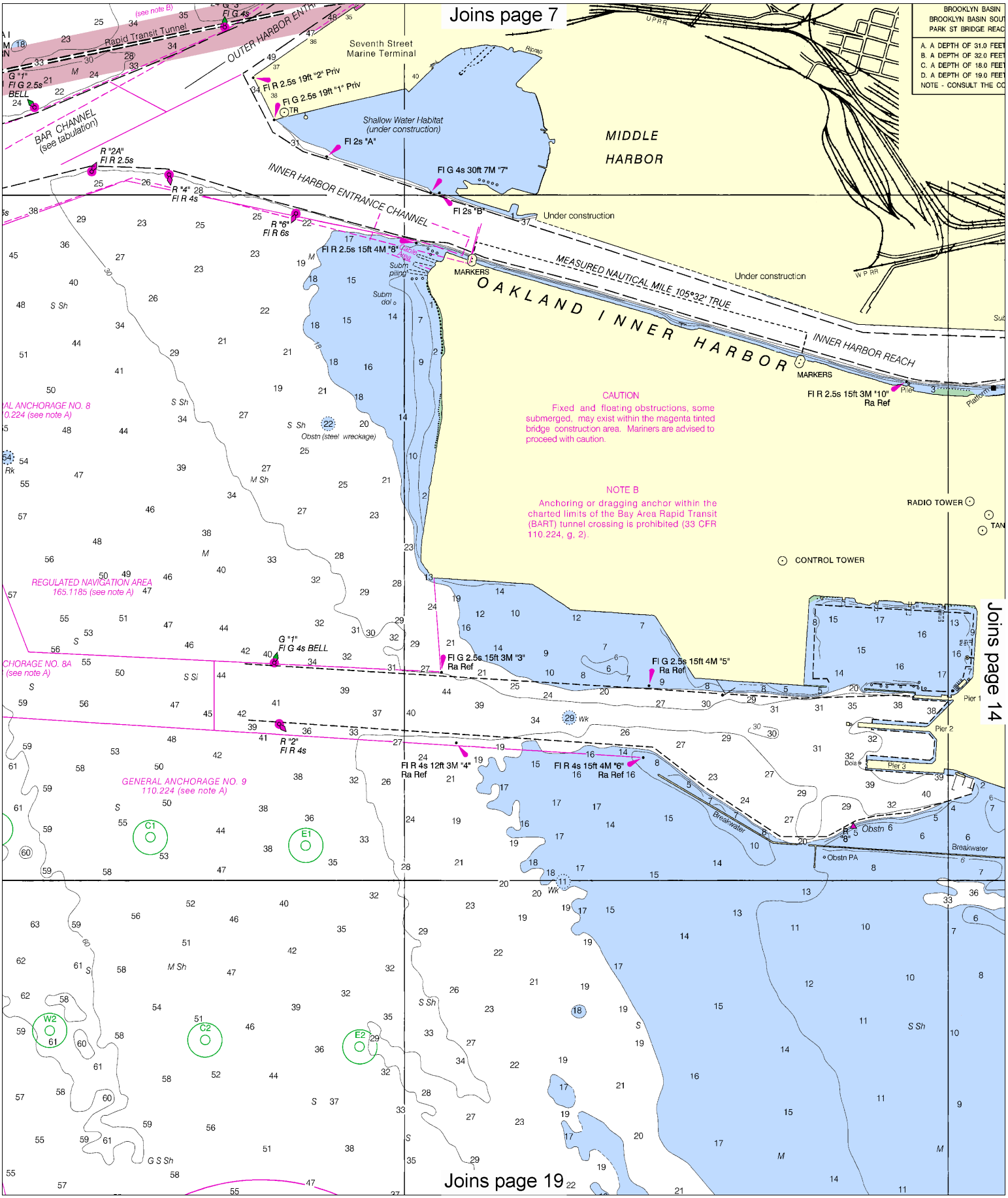
12

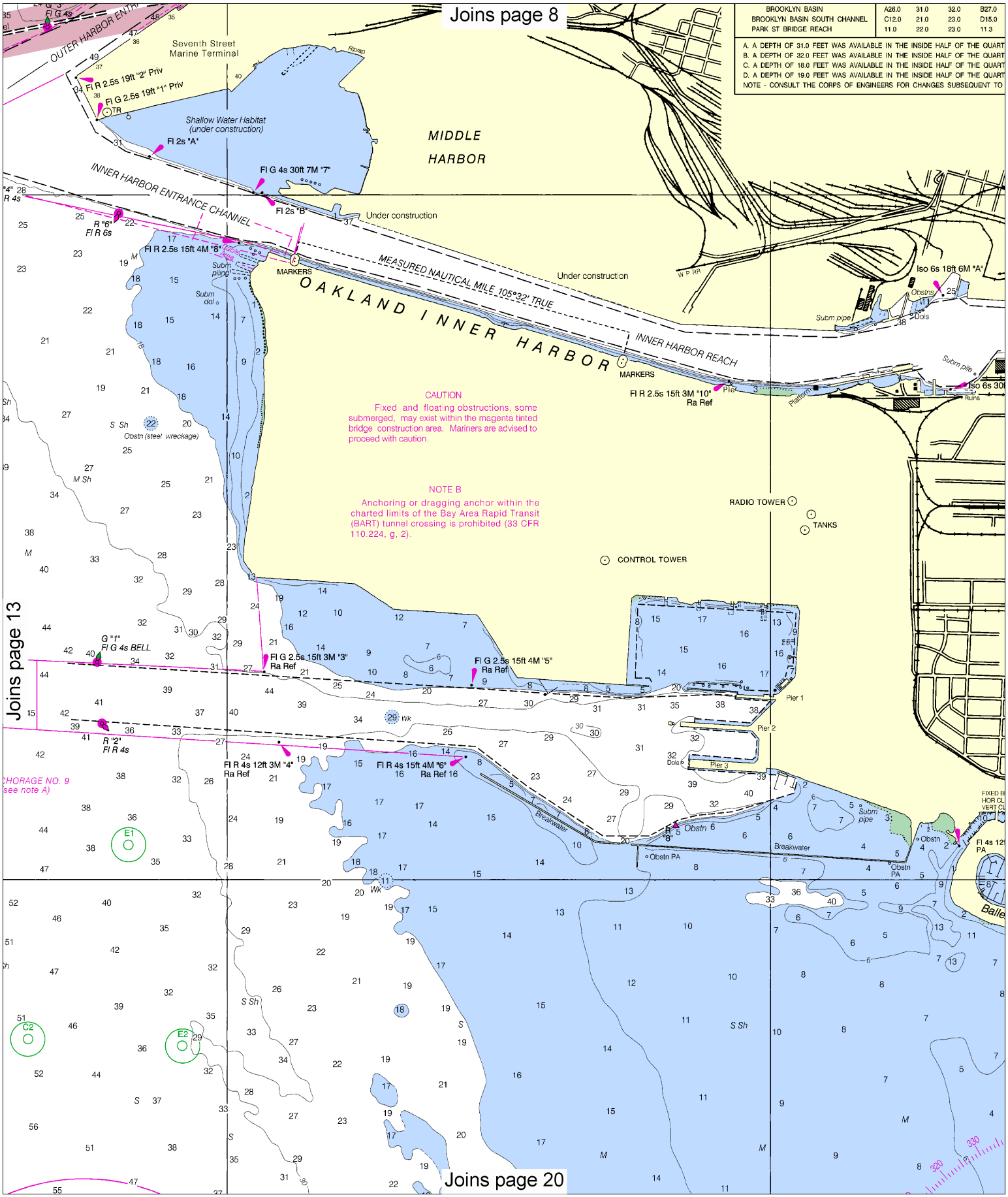
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1 ½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500


Joins page 7
Seventh Street
Marine Terminal
Riprap
Shallow Water Habitat
(under construction)
Fl 2s "A"
Fl G 4s 30ft 7M "7"
Fl 2s "B"
Under construction
MIDDLE
HARBOR
INNER HARBOR ENTRANCE CHANNEL
OUTER HARBOR ENTRANCE
Rapid Transit Tunnel
(see note B)
BAR CHANNEL
(see tabulation)
Fl G 2.5s
BELL
Fl G 4s
Fl R 2.5s 19ft "2" Priv
Fl G 2.5s 19ft "1" Priv
TR
R "2A"
Fl R 2.5s
R "4"
Fl R 4s
R "6"
Fl R 6s
Fl R 2.5s 15ft 4M "8"
Obstn
Subm
piling
Subm
dol
MARKERS
MEASURED NAUTICAL MILE 105°32' TRUE
OAKLAND INNER HARBOR
INNER HARBOR REACH
Under construction
MARKERS
Fl R 2.5s 15ft 3M "10"
Ra Ref
Pier
Platform
U P R R
W P R R
CAUTION
Fixed and floating obstructions, some submerged, may exist within the magenta tinted bridge construction area. Mariners are advised to proceed with caution.
NOTE B
Anchoring or dragging anchor within the charted limits of the Bay Area Rapid Transit (BART) tunnel crossing is prohibited (33 CFR 110.224, g, 2).
RADIO TOWER
CONTROL TOWER
REGULATED NAVIGATION AREA
165.1185 (see note A)
GENERAL ANCHORAGE NO. 9
110.224 (see note A)
Obstn (steel wreckage)
G "1"
Fl G 4s BELL
Fl G 2.5s 15ft 3M "3"
Ra Ref
Fl G 2.5s 15ft 4M "5"
Ra Ref
R "2"
Fl R 4s
Fl R 4s 12ft 3M "4"
Ra Ref
Fl R 4s 15ft 4M "6"
Ra Ref 16
Pier 1
Pier 2
Pier 3
Breakwater
Obstn
Obstn PA
Wk
C1
E1
C2
E2
W2
Joins page 14
Joins page 19
BROOKLYN BASIN
BROOKLYN BASIN SOUT
PARK ST BRIDGE REAC
A. A DEPTH OF 31.0 FEET
B. A DEPTH OF 32.0 FEET
C. A DEPTH OF 18.0 FEET
D. A DEPTH OF 19.0 FEET
NOTE - CONSULT THE CC



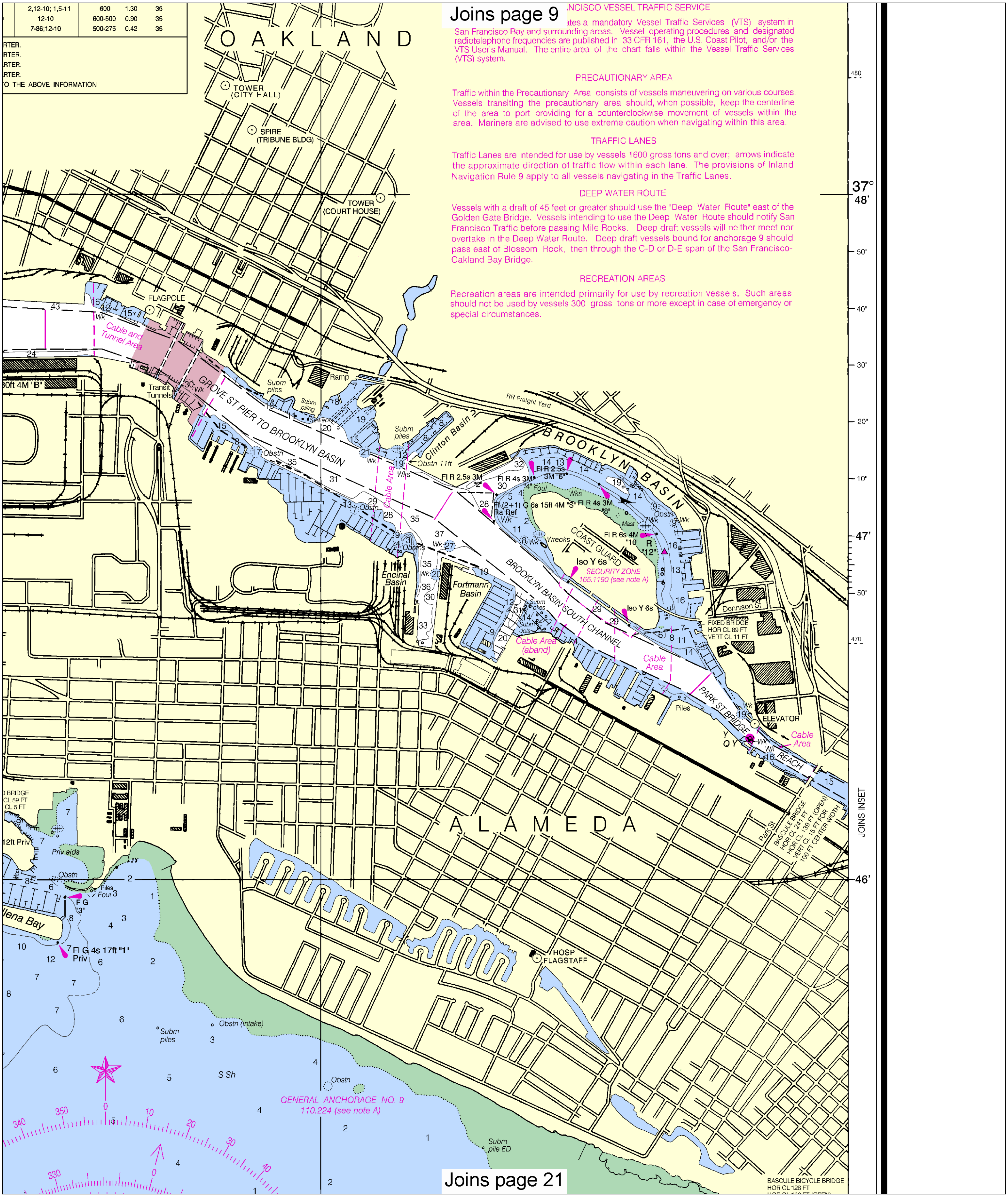
14

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0, 1, 1 ½

Yards: 500, 0, 500, 1000, 1500, 2000, 2500


Joins page 9
NCISCO VESSEL TRAFFIC SERVICE
ates a mandatory Vessel Traffic Services (VTS) system in San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.
PRECAUTIONARY AREA
Traffic within the Precautionary Area consists of vessels maneuvering on various courses. Vessels transiting the precautionary area should, when possible, keep the centerline of the area to port providing for a counterclockwise movement of vessels within the area. Mariners are advised to use extreme caution when navigating within this area.
TRAFFIC LANES
Traffic Lanes are intended for use by vessels 1600 gross tons and over; arrows indicate the approximate direction of traffic flow within each lane. The provisions of Inland Navigation Rule 9 apply to all vessels navigating in the Traffic Lanes.
DEEP WATER ROUTE
Vessels with a draft of 45 feet or greater should use the "Deep Water Route" east of the Golden Gate Bridge. Vessels intending to use the Deep Water Route should notify San Francisco Traffic before passing Mile Rocks. Deep draft vessels will neither meet nor overtake in the Deep Water Route. Deep draft vessels bound for anchorage 9 should pass east of Blossom Rock, then through the C-D or D-E span of the San Francisco-Oakland Bay Bridge.
RECREATION AREAS
Recreation areas are intended primarily for use by recreation vessels. Such areas should not be used by vessels 300 gross tons or more except in case of emergency or special circumstances.
2,12-10; 1,5-11 | 600 | 1.30 | 35
12-10 | 600-500 | 0.90 | 35
7-86;12-10 | 500-275 | 0.42 | 35
O THE ABOVE INFORMATION
O A K L A N D
TOWER (CITY HALL)
SPIRE (TRIBUNE BLDG)
TOWER (COURT HOUSE)
FLAGPOLE
Cable and Tunnel Area
Transit Tunnels
GROVE ST PIER TO BROOKLYN BASIN
Clinton Basin
RR Freight Yard
BROOKLYN BASIN
Encinal Basin
Fortmann Basin
BROOKLYN BASIN SOUTH CHANNEL
COAST GUARD
SECURITY ZONE 165.1190 (see note A)
Iso Y 6s
Cable Area (aband)
Cable Area
PARK ST BRIDGE
ELEVATOR
FIXED BRIDGE HOR CL 89 FT VERT CL 11 FT
Dennison St
REACH
BASCULE BRIDGE HOR CL 241 FT (OPEN) HOR CL 139 FT FOR VERT CL 15 FT FOR 100 FT CENTER WIDTH
JOINS INSET
A L A M E D A
HOSP FLAGSTAFF
Fl G 4s 17ft "1" Priv
Priv aids
GENERAL ANCHORAGE NO. 9 110.224 (see note A)
S Sh
Subm pile ED
BASCULE BICYCLE BRIDGE HOR CL 128 FT
37° 48'
47'
46'
Joins page 21

CANDLESTICK POINT TO ANGEL ISLAND

Mercator Projection
Scale 1:20,000 at Lat 37°47'
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
Alcatraz Island	(37°50'N/122°25'W)	5.8	5.2	1.1
San Francisco (Golden Gate)	(37°48'N/122°28'W)	5.8	5.2	1.1
Rincon Point	(37°47'N/122°23'W)	6.3	5.7	1.1
Oakland Pier	(37°48'N/122°20'W)	6.2	5.6	1.1
Alameda	(37°46'N/122°18'W)	6.6	5.8	1.1
San Leandro Channel	(37°42'N/122°12'W)	7.2	6.6	1.1

Dashes (- - -) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.

(Aug 2009)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical
Al alternating
B black
Bn beacon
C can
DIA diaphone
F fixed
Fl flashing
G green
IQ interrupted quick
Iso isophase
LT HO lighthouse
M nautical mile
m minutes
MICRO TR microwave tower
Mkr marker
Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
Q quick
R red
Ra Ref radar reflector
R Bn radiobeacon
R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles
VQ very quick
W white
WHIS whistle
Y yellow

Bottom characteristics:

Blds boulders
bk broken
Cy clay
Co coral
G gravel
Grs grass
gy gray
h hard
M mud
Oys oysters
Rk rock
S sand
so soft
Sh shells
sy sticky

Miscellaneous:

AUTH authorized
ED existence doubtful
Obstn obstruction
PA position approximate
PD position doubtful
Rep reported
Subm submerged

21 Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

PLANE COORDINATE GRID
(based on NAD 1927)

The California State Plane Coordinate Grid (Zone III) is indicated by dashed ticks at 10,000 foot intervals. The last three digits are omitted.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Department of the Navy and U. S. Coast Guard.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83) and for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.260" southward and 3.891" westward to agree with this chart.

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio station listed below provides continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Mt. Pise, CA	KHB-49	162.40 MHz WX2

SCALE 1:20,000

Nautical Miles: ½ 0 ½ 1 1½
Statute Miles: ½ 0 ½ 1 1½
Yards: 500 0 500 1000 1500 2000 2500
Meters: 500 0 500 1000 1500 2000 2500

37°44'
122°28'
45'
460
37°
44'
450
43'
29'
1430
122° 28'
27'
1400
26'

Navigation re
Coast Pilot 7. A
lished in the Notic
regulations may b
11th Coast Guar
Office of the Di
San Francisco, C
Refer to char

This na
Ocean Ser
improving
Service, N

56th Ed., Sep. /09 ■ Corrected through NM Sep. 26/09
Corrected through LNM Sep. 15/09
18650

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

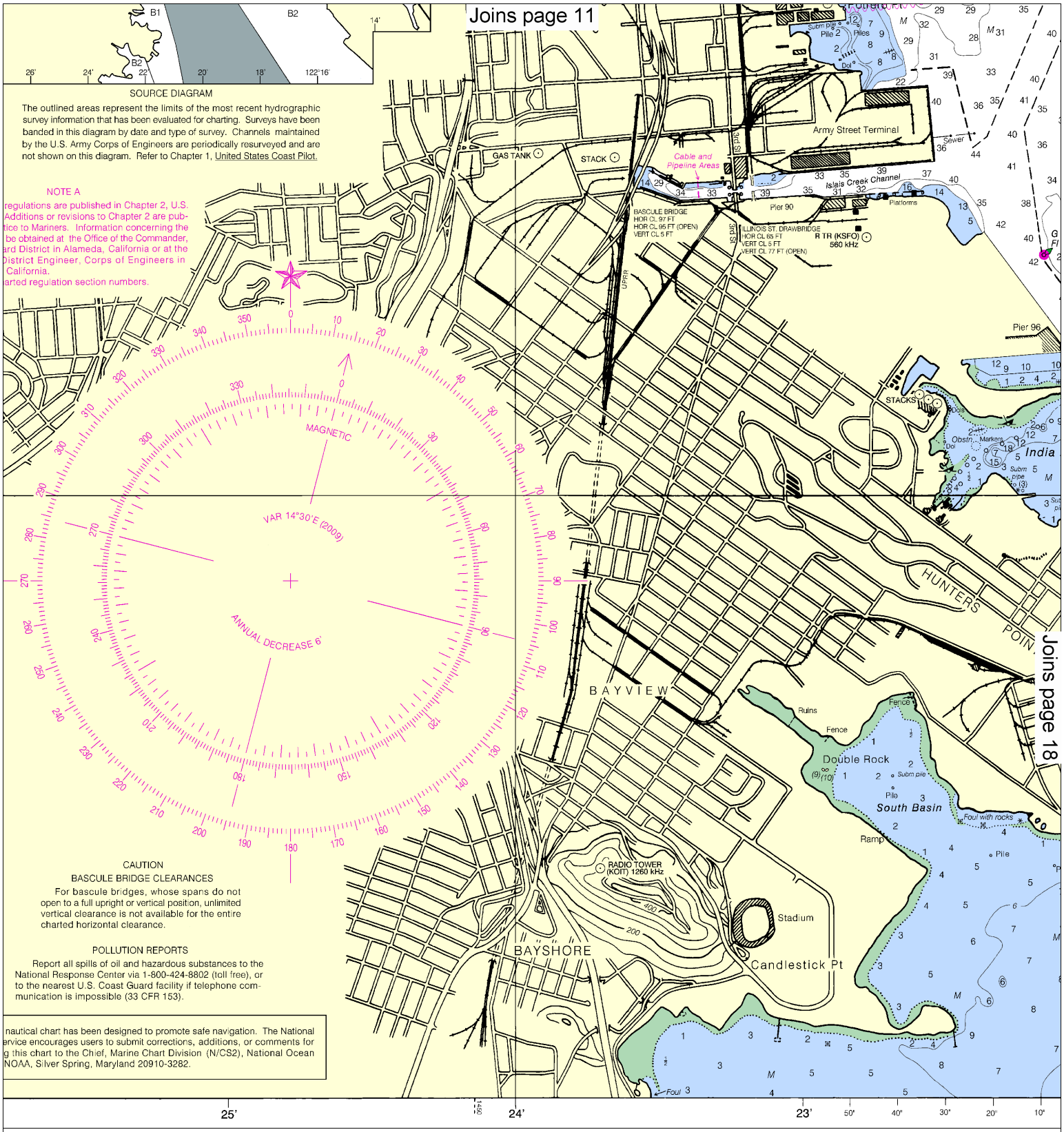
WARNING

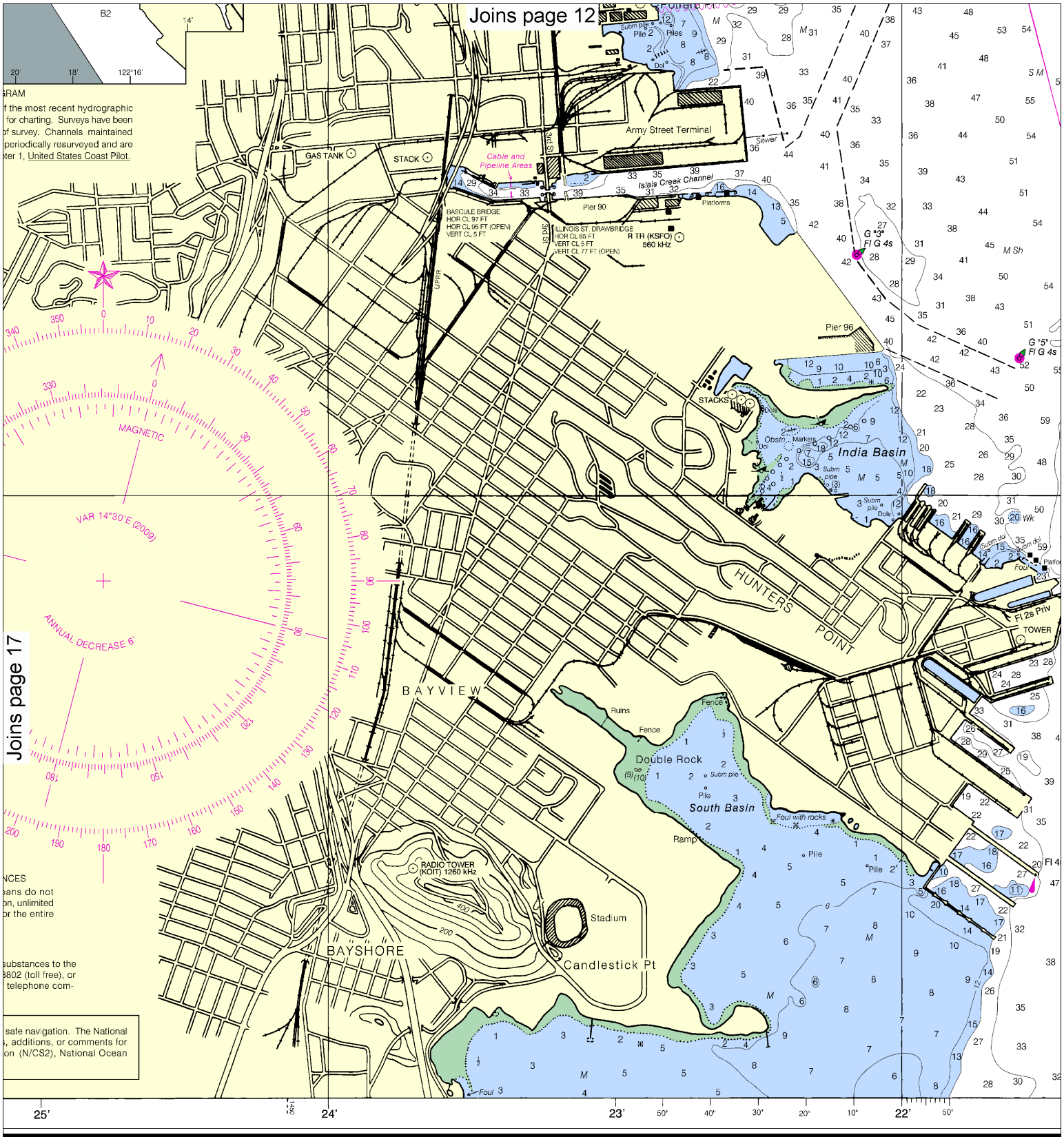
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 1 1½
Yards: 500 0 500 1000 1500 2000 2500


Joins page 11
B1
B2
B2
14'
26'
24'
22'
20'
18'
122°16'
SOURCE DIAGRAM
The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.
NOTE A
regulations are published in Chapter 2, U.S. Additions or revisions to Chapter 2 are pub- tice to Mariners. Information concerning the be obtained at the Office of the Commander, ard District in Alameda, California or at the District Engineer, Corps of Engineers in California.
arted regulation section numbers.
Army Street Terminal
GAS TANK
STACK
Cable and Pipeline Areas
Islais Creek Channel
Sewer
Pier 90
Platforms
BASCULE BRIDGE
HOR CL 95 FT (OPEN)
VERT CL 5 FT
ILLINOIS ST. DRAWBRIDGE
HOR CL 65 FT
VERT CL 5 FT
VERT CL 77 FT (OPEN)
R TR (KSFO)
560 kHz
UPRR
Pier 96
STACKS
India
MAGNETIC
VAR 14°30'E (2009)
ANNUAL DECREASE 6'
HUNTERS POINT
BAYVIEW
Ruins
Fence
Double Rock
Subm pile
Pile
South Basin
Foul with rocks
Ramp
RADIO TOWER
(KOIT) 1260 kHz
Stadium
Candlestick Pt
BAYSHORE
Foul
CAUTION
BASCULE BRIDGE CLEARANCES
For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.
POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).
nautical chart has been designed to promote safe navigation. The National ervice encourages users to submit corrections, additions, or comments for g this chart to the Chief, Marine Chart Division (N/CS2), National Ocean NOAA, Silver Spring, Maryland 20910-3282.
Joins page 18
25'
24'
23'
LOGARITHMIC SPEED SCALE
1 2 3 4 5 6 7 8 9 10 15 20 25 30 40 50 60
To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the spread is 16.0 knots

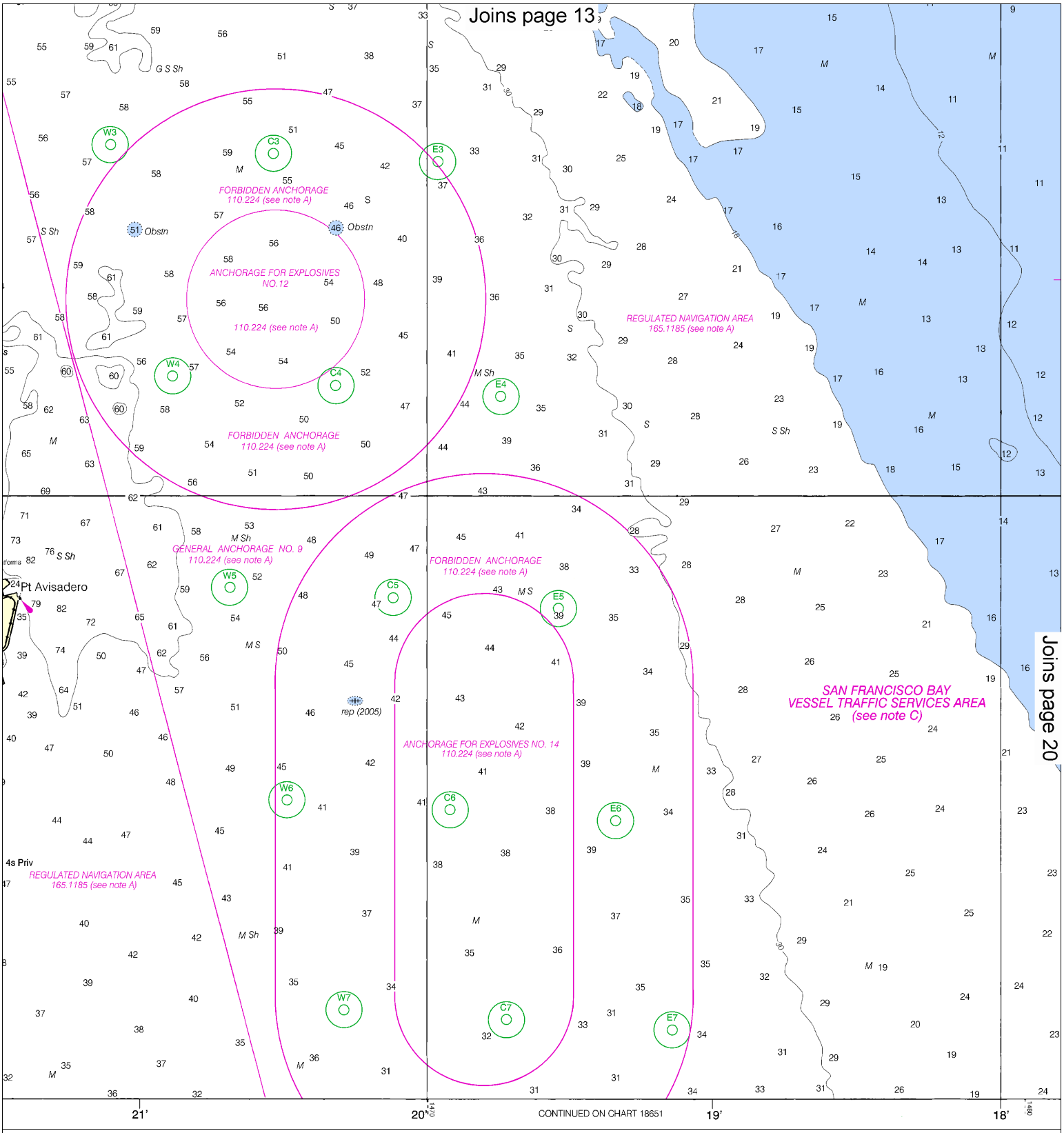


Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 1 1½

Yards: 500 0 500 1000 1500 2000 2500



on, D.C.
OMMERCE
ERIC ADMINISTRATION
RVICE

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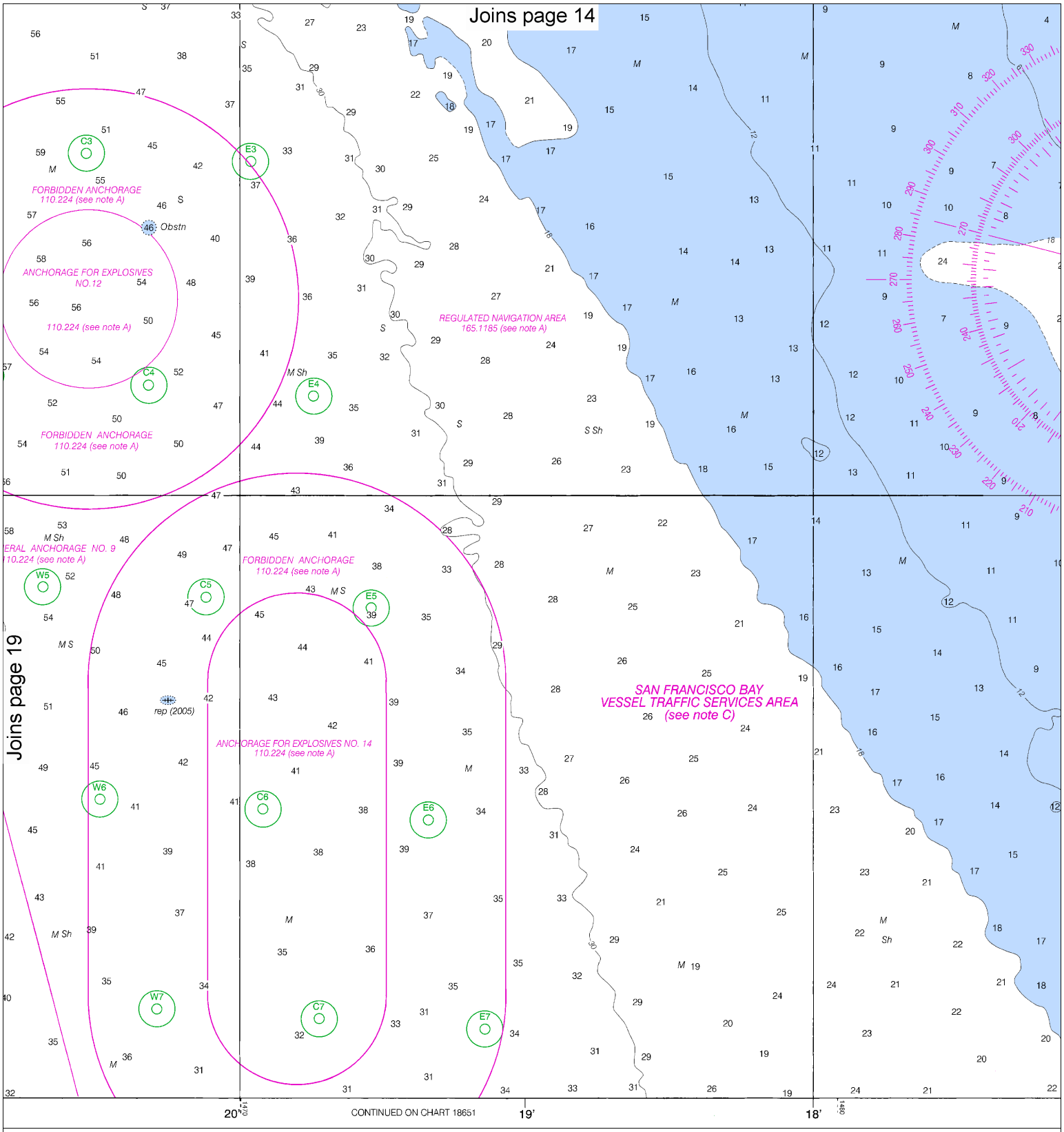
This chart is available in a version updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts.

SOUNDINGS IN FEET



PRINT-ON-DEMAND CHARTS

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SOUNDINGS IN FEET

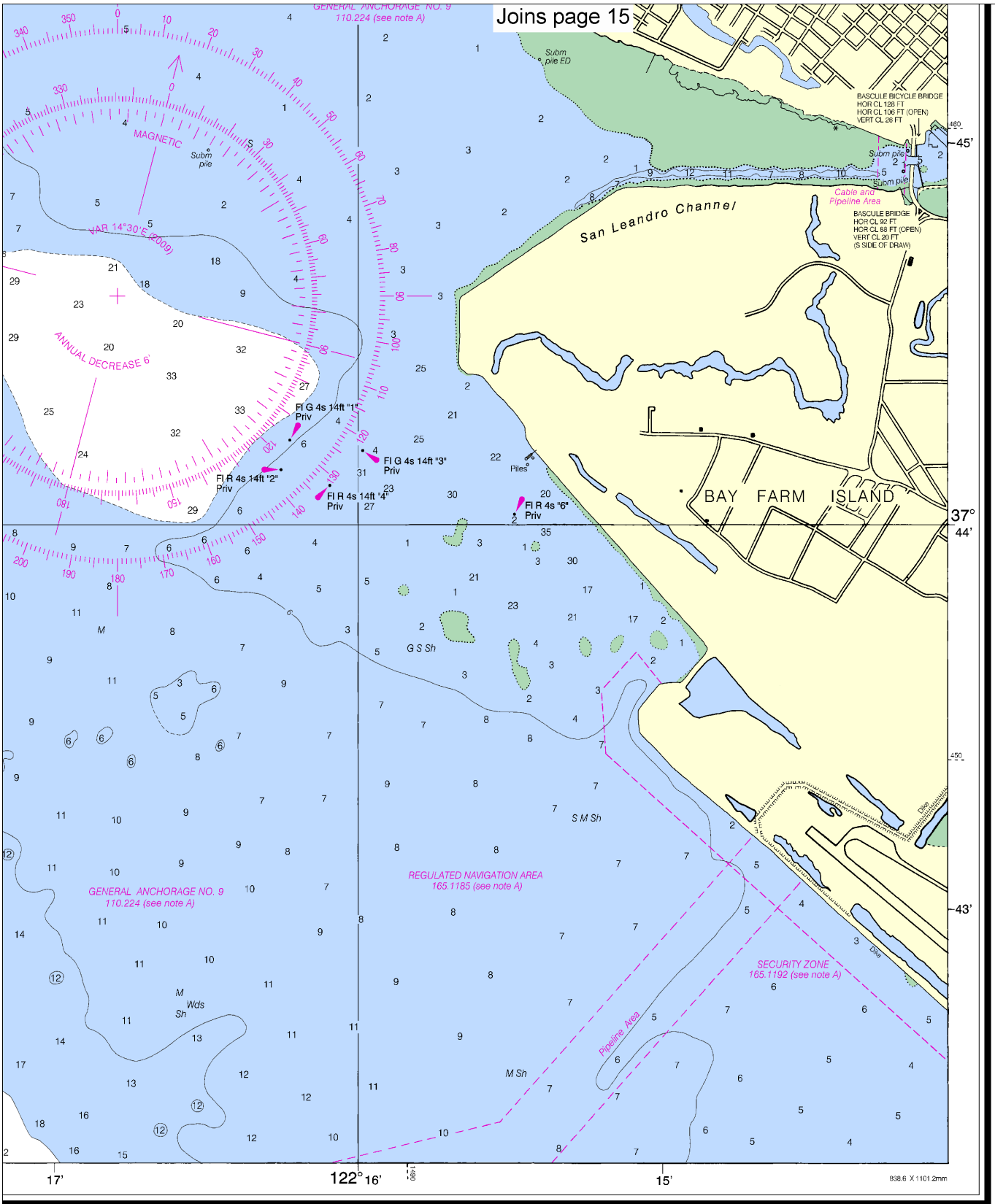
FATHOMS	
FEET	6
METERS	1 2 3

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1 ½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500



San Francisco Bay

SOUNDINGS IN FEET - SCALE 1:20,000

18650

ED. NO. 56

NSN 7642014011523 NGA REFERENCE NO. 18AHA18650

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information	—	**http://www.nauticalcharts.noaa.gov**
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Report a chart discrepancy	—	**http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx**
Chart and chart related inquiries and comments	—	**http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs**
Chart updates (LNM and NM corrections)	—	**http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html**
Coast Pilot online	—	**http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm**
Tides and Currents	—	**http://tidesandcurrents.noaa.gov**
Marine Forecasts	—	**http://www.nws.noaa.gov/om/marine/home.htm**
National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
Contact Us	—	**http://www.nauticalcharts.noaa.gov/staff/contact.htm**

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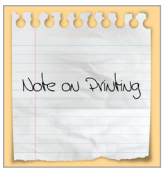

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NOAA's Office of Coast Survey The Nation's Chartmaker